DOCUMENT RESUME

ED 179 860 CG 014 001

AUTHOR DeLange, Janice
TITLE A Comparison of the Effects of Assertive Skill Training and Desensitization in Increasing Assertion and Reducing Anxiety in Groups of Women.
PUB DATE May 78
NOTE 34p.: Paper presented at the Meeting of the Midwestern Association of Behavior Analysis (4th, Chicago, Illinois, May 13-16, 1978)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Anxiety; *Assertiveness; *Behavior Change; Behavior Patterns; *Desensitization; *Females; Individual Characteristics; *Self Concept; Self Evaluation; Training Techniques

ABSTRACT

The relative efficacy of systematic desensitization and assertive skill training in increasing assertive responses, reducing anxiety related to being assertive, and increasing response satisfaction, was compared to two control conditions--a placebo-control (discussion) and an assessment-control. Also investigated was the effect of the subjects' general level of anxiety on treatment method. Women (N=120), ranging in age from 19 to 56 years, were divided into high and low levels of general anxiety, and randomly assigned to one of four treatment conditions. Pre- and post-treatment testing included self-report measures of assertiveness and state anxiety, a Behavior Role-Play Test (BRT) consisting of 11 audiotaped situations to which women responded, and ratings of anxiety level for each situation and the amount of satisfaction with responses given. Results indicated that women in assertive skill training improved their performance on the BRT significantly more than on any other treatment condition: within the assertive skill training group itself, greater generalization of treatment effects to novel situations occurred for low anxiety women than for high anxiety women. On the self-report measure of predicted discomfort women in both desensitization and assertive skill training showed a significant decrease. For actual anxiety felt while performing on the BRT, all three treatment conditions were effective in reducing anxiety on situations used in treatment, but women in assertive skill training also significantly reduced anxiety in new situations not used in treatment. (Author)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED179860

A COMPARISON OF THE EFFECTS OF ASSERTIVE SKILL TRAINING AND DESENSITIZATION IN INCREASING ASSERTION AND REDUCING ANXIETY IN GROUPS OF WOMEN

By

Janice DeLange, Ph.D.
School of Social Work
University of Washington
Seattle, Washington 98195

U S DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Janice DeLange

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

CG 014001

Paper presented to the 4th annual convention of the Midwestern Association of Behavior Analysis, May, 1978.

Assertiveness training has recently become a popular technique for both clinicians and lay persons; in particular this has been true for women, as women's assertiveness training groups have gained in popularity across the country. Greater political, social, and employment opportunities for women, as well as a striving for independence and equality in relationships between the sexes, may have magnified women's awareness of their lack of assertive behavior.

There are at least two theoretical explanations for the lack of assertive behavior: (1) the behavior has not been learned, and thus a skill deficit exists; (2) the skill has been learned, the behavior is in the person's repertoire, but it is being inhibited by anxiety evoked in situations calling for assertion. For women especially, due to the socialization process which teaches them to be dependent, passive, and docile, it may well be that assertive behavior in many situations has not been developed. On the other hand, even if the skills are in the woman's repertoire, the expectation of negative consequences for performing role-violating behavior may cause anxiety which inhibits the performance of the behavior. Many women taking assertiveness training often do, in fact, report high degrees of anxiety when in situations where they perceive some assertive action is appropriate (Brockway, 1976; Gambrill and Richey, 1975). If one proceeds under the first assumption, that a skill deficit exists, skill training is clearly indicated; under the second, that anxiety which inhibits the behavior must be reduced, a counterconditioning process, systematic desensitization, is called for.

The purpose of this study was to compare the effects on women of assertive skill training and desensitization with each other and a placebo as well as an assessment-control in increasing assertive responses and decreasing anxiety related to being assertive.

Although empirical study of assertive skill training has fallen behind its clinical use, to date several studies do attest to its effectiveness with various populations, applied both individually (Eisler, Hersen, and Miller, 1973; Goldsmith and McFall, 1975; McFall and Lillesand, 1971) and in groups (Galassi, Galassi, and Litz, 1974; Rathus, 1972; Rimm, Hill, Brown, and Stuart, 1974). On the other hand, the effect of desensitization on fears, phobias, and anxiety has been widely researched and its effectiveness is no longer in question (Eysenck and Beech, 1971; Paul, 1969). However, most of this research has focused on specific fears and phobias, and less on interpersonal anxiety. To date, its effect on anxiety regarding assertive behavior is not clear.

A major difference between these two approaches lies in the target of change. Operant techniques, including skill training, attempt to modify the overt behavior, while assuming that a concomitant reduction in anxiety will occur. The counterconditioning process of systematic desensitization identifies the anxiety as the target of change, assuming that the behavior will then occur when the anxiety is inhibited.

There has been little empirical study to date comparing the relative efficacy of desensitization and assertive skill training in increasing assertive responses and reducing assertion-related anxiety; however, some relevant data exists. Studies comparing systematic desensitization with both graduated approach behaviors and modeling with guided participation

found all approaches effective with snake phobics (Bandura, Blanchard, and Ritter, 1969; Barlow, Agras, Leitenberg, and Wincze, 1970; Hamilton and Schroeder, 1973). Wright (1972) studied the effectiveness of group desensitization and group behavior training (including modeling, rehearsal, and feedback) as compared to a wait-list control. Both experimental groups showed significantly less anxiety when called upon to speak in university quiz sections, and the behavior training group improved significantly more in the frequency and quality of verbalizations.

Two studies by Curran (1975) and Curran and Gilbert (1975) compared social skills training and desensitization with control groups and found that both treatments resulted in a significant improvement on skill measures and anxiety reduction; however, the latter study found that, at a 6-month followup, the skill training group had significantly greater improvement on a behavioral role-play of a dating situation than did desensitization or a minimal contact group.

One study (Marzillier, Lambert, and Kellett, 1976) recently compared social skills training and desensitization with psychiatric patients to a wait-list control, with few significant results. Neither treatment produced significant anxiety reduction as compared to the control group, and the desensitization treatment ran into a number of procedural difficulties. Social skills training did result in a significant increase in patients' range of social activities and contacts, as compared to desensitization or wait-list control; desensitization resulted in a significantly greater increase in the range of social contacts than was evident in the wait-list control group.

To date, then, empirical evidence is inconclusive for the relative effectiveness of desensitization and social skill training on social skills and anxiety reduction.

The present study provided a comparison between two behavioral treatment approaches using semiautomated procedures with a clinical population within a group context. The intent of this study was to conduct research which, while following experimental procedures, was clinical in nature, enabling generalization to the large numbers of assertiveness training groups currently being attended by women. It was designed to test the relative efficacy of systematic desensitization and assertive skill training in increasing assertive responses and reducing anxiety related to being assertive, as compared to two control conditions: a placebo-control and an assessment-control. A second purpose was to study the effect of the subjects' general anxiety level on treatment method. Prior to treatment subjects were divided into two groups of high and low levels of general anxiety, in order to test interaction effects of general anxiety level with treatment method.

It was hypothesized that:

1. both desensitization and assertive skill training would be more effective than the discussion (placebo-control) or assessment-control condition in increasing assertive responses as shown on self-report and behavioral assessment measures;

2. assertive skill training would be significantly more effective in producing change in the desired direction on measures of assertiveness than either control groups or desensitization;

3. desensitization would be more effective in reducing anxiety in assertion situations than either control groups or assertive skill training;

4. for Low-Anxiety women, assertive skill training would be more effective in increasing assertive responses than any other condition.

For High-Anxiety women no specific hypothesis was made regarding the relative effectiveness of the two treatment conditions on measures of assertion. This study also gave an opportunity to test two related research questions: 1) what effect desensitization alone has on increasing assertive responses, and 2) whether general anxiety level has an effect on the assertive skill training process.

METHOD

Subjects

Women in the Madison, Wisconsin, area were recruited by means of notices in newsletters of women's organizations; posters in office buildings, cafeterias, and churches; a newspaper article written on the project; and ads in the two city newspapers and three outlying community papers. No recruitment was done on campus or in student papers, in an effort to obtain as similar a population as possible to that attending assertion-training groups across the country.

One hundred twenty women participated in this study. All were of United States nationality; all but three were Caucasian, one being oriental, one Native American, and one half Native American and half

Caucasian. The mean age was 30.89, with a range from 19 to 50 years. Years of education ranged from 10 to 19, with a mean of 14.73. In marital status 39 were single, 53 were married or living with an intimate other, 28 were separated or divorced, and none were widowed. Occupations were distributed as follows:

Homemaker	15
Professional	29
Semiprofessional	7
Clerical/secretarial/salespersons	36
Service personnel	5
Technicians/craftpersons	4
Graduate students	9
Undergraduate students	10
Unemployed	4
No information	1
	120

Design and Procedure

Subjects were divided into two levels of anxiety, high and low, at the median of their scores on the State-Trait Anxiety Inventory, A-Trait (Spielberger, Gorsuch, and Lushene, 1970), forming two equal groups. The women in each level were then randomly assigned to one of four treatment conditions: Systematic Desensitization (DES), Assertive Skill Training (ASS), Discussion (DISC) or Placebo-Control, and Assessment-Control (A-C). This process yielded a 2 x 4 factorial design. There were 30 women in each condition, 15 High-Anxiety and 15 Low-Anxiety women. Within each treatment condition, women were arranged into groups of six, three High-Anxiety and three Low-Anxiety, on the basis of their schedules of available meeting times. There were five groups of six women within each treatment condition. The design was counterbalanced

for therapist; each of five female therapists was assigned one group in each treatment condition, randomly where possible within available time schedules. All groups were conducted simultaneously within the same 6 weeks, using the same assertive situations in all groups in every treatment condition within the same week. The order in which each therapist ran her three groups was varied to reduce any therapist carryover effect that might have occurred from one treatment condition to another.

Two weeks prior to treatment the entire study population came in groups of eight to twelve to be informed about the program, establish a contract, complete paper and pencil pretests, and assess the situations on which the content of the program depended. The purpose of the project was described to them as an attempt to find out which techniques were most effective in helping women become more assertive, and that in keeping with this, different groups would be doing different things. Any specific questions regarding the nature of the techniques were handled by telling them that at the first session they would be told what their particular group would be doing, and at the conclusion of the program all the techniques would be described to them.

Each woman deciding to enter the program signed a contract and was requested to deposit $18 to be returned upon completion of the program. For each session missed, 1/6 of the money was to be deducted. The experimenter made this contract separately with each woman, discussing the amount of deposit. The policy was that no one was to be kept out of the project because of lack of money. Eleven women stated that they could not put $18 out for that length of time. For six women a lesser

amount was negotiated; five put no money on deposit, but impressed the experimenter with the seriousness of their intent.

Program Content

The situations to be included in the treatment sessions and on a behavioral role-play test were elicited from women other than the study population prior to the study. Approximately 30 women in the area were asked to keep logs of situations that happened to them in which they perceived an assertive response to be desirable. Other women and groups the experimenter talked with also added situations. The situations elicited through this process were categorized and written up into vignettes, which were then rated by a different group of 40 women as to 1) frequency of occurrence, 2) their degree of comfort in the situation, and 3) whether they would handle it satisfactorily or not. The vignettes were thus refined, and those situations which appeared to be irrelevant or nonproblematic were eliminated. At the meeting two weeks prior to treatment, the final 60 situations were then rated by the study population as follows: 1) how uncomfortable would you be in this type of situation? (a 5-point scale, not at all to very much); 2) would you handle this situation to your satisfaction? (a 2-point scale, satisfactorily and unsatisfactorily); and 3) how important is this type of situation for you to work on? (a 3-point scale, not important to very important). The women were also told to ascertain whether all types of situations for which they were coming to the group were included, and if not, to make additions. The approach here was clinical in nature, with each woman defining the problem areas in the same manner as she would if coming to an assertiveness training group.

The situations chosen for inclusion in the program were those in which 1) at least 50% of the population rated their handling of it as "unsatisfactorily", 2) at least 75% reported having a fair amount or more discomfort, and 3) at least 75% thought it fairly or very important to work on. Five categories (one per treatment session) with the greatest number of situations meeting criteria standards were selected as most relevant. The categories identified in this way were: stating one's needs and initiating confrontation, handling criticism, requesting from others, interaction with authority figures, and initiating actions.

A hierarchy of stressful situations was necessary for the desensitization treatment condition. A standardized hierarchy was developed based on ratings of degree of discomfort made by the total study population. The hierarchy was constructed first according to the rankings of categories for each week based on the mean number of "5" (very much) discomfort ratings given to situations used from a category; then all situations within the category or weekly session were again ranked according to their individual ratings. Although the hierarchy was necessary only for desensitization, once developed all treatments followed the same order of situation presentation.

Therapists

Five female therapists each led one group in every treatment condition, three groups per therapist. Four of the leaders had master's degrees in social work, and the fifth was in her final semester prior to completing hers; one therapist also had a master's degree in psychology. All therapists had had previous experience leading groups. Four of the

five had previous training in behavioral techniques. One of these also had psychoanalytic training in her background, and the other three had worked with various other techniques; however, these four were currently identified with behavioral techniques as their major theoretical orientation. The fifth therapist had been trained in and was currently identified with a more traditional approach, but indicated interest in behavioral techniques.

All therapists completed 18-20 hours of training in applying the techniques. To further standardize the procedures among therapists, each received a manual outlining the procedures for every session, along with a transcript of the audiotape contents for each treatment's weekly sessions (DeLange, 1976).

Measures

Women completed two self-report tests pre and posttreatment: the Rathus Assertiveness Schedule (Rathus, 1973) and the Assertion Inventory (Gambrill and Richey, 1975). Both give a score reflecting overall assertiveness, and the latter also gives a rating of discomfort related to being assertive.

A Behavior Role-Play Test (BRT) was constructed which consisted of 11 audiotaped vignettes selected from those previously rated by the women. Six vignettes were ones also included in the treatment sessions, called TREATMENT items; five were novel vignettes only appearing on the BRT, called NOVEL items. Of these latter five, three were from categories of situations worked on in treatment, NOVEL TREATMENT items, i.e., handling criticism; two were from categories not used in treatment, a novel situation from a novel category, NOVEL NOVEL items. This division allowed for the testing of generalization of treatment effects to

untreated situations within categories used in treatment and categories never worked with.

Following her taped response to each audiotaped vignette, each woman rated 1) her SUDS level (Subjective Units of Disturbance), an anxiety rating ranging from 0-100, none to extreme; and 2) the amount of satisfaction with her response, ranging from 0-10, none to complete satisfaction. Thus, the Behavior Role-Play Test yielded three main measures: 1) the rating of the taped responses (from now on referred to as BRT); 2) SUDS level; and 3) satisfaction rating (SATISF).

The rating of the women's responses was done by trained raters according to a criterion-based scoring system developed following the model set forth by Goldfried and D'Zurilla (1969). After the elicitation and selection of relevant situations, various responses were gathered from women not involved in the study. Judges then rated these responses and wrote out the criteria used to decide on the rating. Based on the composite of five judges' numerical ratings, perceived goals in the situation, and criteria delineated while evaluating the responses, criteria for what is an effective assertive response unique to each situation were developed. Using these criteria, a 5-point rating scale was then developed for each situation, "1" being unassertive and "5" assertive. This process culminated in a Rater's Manual, enabling raters to assign numerical ratings to women's responses in the behavioral role-play assessment instrument. (For a more involved discussion of the construction of this measure and the Rater's Manual, see DeLange, 1976).

Responses to 11 audiotaped situations at pre and posttreatment resulted in 240 sets of 11 responses. Raters were randomly assigned to one of two teams; each team of two raters were randomly assigned one-half of the complete sets of BRT responses to score, 60 pretest and 60 posttest responses. Raters worked individually, with one member of each team rating the sets of responses in reverse order. Raters were not informed that the tapes included pre and posttreatment responses from the same women, nor that teams of raters existed who were rating the same responses. The mean of the scores given by the two raters was calculated for each BRT response and was the actual score used in the analysis.

A random sample of 10 percent or 24 response sets were selected, half from each team's assigned list, for the purpose of checking inter-rater reliability. One half of these 24 were posttreatment responses, and the other half were pretreatment. As a result of this procedure, each team rated 132 sets of BRT responses, 24 sets of which were scored by all raters.

Using the mean score of two raters of a team for the 24 duplicated sets of responses, a Pearson product-moment correlation coefficient was calculated for each of the 11 BRT items. The correlation coefficients ranged from .97 to .87 for all items except item 10, whose coefficient was .78. Another method of investigating how reliably raters scored the items was to check on how closely they agreed on ratings, that is, given any response, how frequently did two teams give the same mean rating? Ratings of the number of agreements to the total number of

agreements plus disagreements, the coefficients of interrater agreement, were computed for the 24 sample items. A disagreement was defined as any two ratings which were more than .5 apart. Item 10 had a coefficient of interrater agreement of 95.83 percent, which indicated a high level of actual agreement. Thus the ratings were considered to be within an acceptable range of reliability.

The Behavior Role-Play Test was individually administered just prior to the first treatment session. All posttreatment measures were completed at the sixth meeting of the group.

Treatment Conditions

Treatment was carried out in groups of six women meeting in weekly sessions of 1 and 3/4 hours for 5 weeks, with the sixth being used for posttesting. All 15 groups completed the treatment during the same 5-week period. Although treatment techniques differed according to treatment conditions, parallel procedures were followed.

In the first session, introductory group procedures were followed by a taped presentation of the rationale relevant to specific treatment procedures for each group. The treatment specific to the condition then began as delineated below, using six situations within a specified category per session, with the exception of the first session which contained only three. Every group, regardless of treatment condition, worked on the same six situations in the same week of sessions. All situations were presented by means of an audiotape recorder.

The Assertive Skill Training treatment included the presentation of the situation, coaching, and two modeled responses by females via audiotape, behavior rehearsal, self-evaluation and self-reinforcement, and group feedback. Desensitization consisted of training in deep muscle relaxation following Paul's Manual (1966), and presentation of hierarchical items via audiotape. Stimulus visualization lasted 8-10 seconds, followed by 30-60 seconds of relaxation. Women signalled their SUDS level directly following each scene presentation by holding up the appropriate number of fingers, i.e., six fingers indicated 60 SUDS. Each situation was presented at least 3 times, and no more than 6 times.

In the Discussion group women listened to the same situations via audiotape. Women shared their feelings aroused by the situation and related similar past experiences. The emphasis was on understanding what one felt, why assertive behavior was inhibited, and what had occurred in the past to cause that reaction. Therapists were instructed to treat this group as a support group. Any specific suggestions by group members as to what to say or how to act in a situation were minimized, with the therapist refocusing the discussion on feelings and causes of inhibition.

Women in the Assessment-Control group were told that, due to the number of women wanting to participate, some were randomly selected to wait for the second round of groups. These Ss completed all pre and posttests in the same weeks that Ss in the other treatment conditions did. Following the study, these women were debriefed and given 6 weeks of treatment without cost.

Results

The dependent variables that are used in the analyses to follow are shown in Table 1.

Table 1

CRITERION MEASURES

Measure for	Name of Instrument	Abbre-viation
Assertiveness:		
Overall	Rathus Assertiveness Schedule	RAS
	Assertion Inventory-Response Probability	AI-R PROB
Situationally specific	Behavior Role-Play Test	BRT
State Anxiety:		
Overall	Assertion Inventory-Discomfort	AI-DISCOMF
On role-played items	Subjective Units of Disturbance	SUDS
Satisfaction:		
On role-played items	Satisfaction Rating	SATISF

The situations on the Behavior Role-Play Test were broken down into 5 groups for analysis:

Group 1 Mean scores on all 11 situations (TOTAL)

Group 2 Mean scores on treatment items, those used in the treatment sessions (TREATMENT; 6 items).

Group 3 Mean scores on novel situations, those not used in treatment sessions (NOVEL; 5 items).

Group 4 Mean scores on novel treatment items, those novel situations which were taken from categories used in treatment sessions (NOVEL TREATMENT; 3 items).

Group 5 Mean scores on "novel novel" items, novel situations in novel categories not used in treatment sessions (NOVEL NOVEL; 2 items).

Groups 2 and 3 equal the total 11 items broken down into treatment and novel situations. Groups 4 and 5 equal Group 3; they are the novel situations broken down into those in categories used in treatment and those in categories not used. This breakdown enabled testing for generalization within categories to untreated situations and across categories to situations in untreated categories. Each of the three ratings (BRT, SUDS, and SATISF) was divided into these five groups, resulting in 15 dependent variables within the Behavior Role-Play Test.

The number of Ss used for all analyses involving posttreatment scores excluded six women who dropped from the study, leaving a posttest N of 114. Three women dropped from Desensitization, one High-Anxiety and two Low-Anxiety; one from the Discussion group, High-Anxiety; two from the Assessment-Control group, one High-Anxiety and one Low-Anxiety; and none from Assertive Skill Training. In addition, because an error was made in the calculation of anxiety level, another S from the Discussion group, Low-Anxiety, was excluded from all analyses involving anxiety level. The few instances of missing data were handled by exclusion of the case for all analyses which included that variable.

Preliminary analyses on age, years of education, marital status, and occupation produced no significant differences among treatment conditions. One-way analyses of variance performed separately for High- and Low-Anxiety groups on all pretreatment criterion measures resulted in no significant differences among treatment conditions, indicating that randomization was effective in equating the four treatment conditions. Because preliminary analyses on all pretreatment criterion measures resulted in no significant differences among treatment conditions,

further analyses were performed using change from pre to posttreatment scores. Due to unequal cell frequencies, the analysis of variance performed was a least-squares analysis (Overall and Spiegel, 1969) with fixed effects and Ss not nested. This followed Winer's classical experimental approach in which each type of effect is assessed separately, and within types the main effect of each factor is adjusted for all other factors (Nie, Hull, Jenkins, Steinbrenner, and Bent, 1975; Winer, 1971). Following these analyses, post-hoc pairwise comparisons were then made using the Newman-Keuls procedure.

Therapist Effect

Three-way analyses of variance produced the following significant results on the SUDS variables: 1) significant main effects for therapists on the TOTAL score and three of the item groups, TREATMENT, NOVEL, and NOVEL TREATMENT ($p < .05$); and 2) significant two-way interaction effects between therapist and treatment conditions on the total score and all item groups ($p < .05$). Post-hoc comparisons indicated that, for all four SUDS variables having significant main effects for therapists, women with Therapist D had a significantly lower decrease in anxiety than women having Therapist C or E. The significant F-ratios for therapist and treatment interaction for the five SUDS variables suggested that the effect of treatment varied with the therapist applying it. Comparisons indicated that the significant therapist by treatment interaction could be attributed to the ASS and DES conditions; in DES, Therapist C was more effective in lowering anxiety, and in ASS, Therapist E was. Interpretation of these results is difficult because the interaction between

therapist and treatment is totally confounded with the group effect. That is, if one identifies the therapist and the treatment delivered to an S, one also pinpoints the group she was in; therefore, when comparing therapists by treatments one is also comparing groups of six Ss with each other. To what extent the results reported here are due to the intrasession history and experience of the group, as opposed to the therapist administering a particular treatment, is impossible to identify in this study.

The only other significant result was a three-way interaction on the satisfaction rating for item group NOVEL TREATMENT. Subsequent comparisons indicated a significant difference between two therapists with High-Anxiety subjects.

For all other criterion measures besides the SUDS ratings, the lack of significant therapist effects allowed the model to be collapsed into a 2 x 4 factorial model; therefore, two-way analyses of variance with the factors of anxiety level and treatment method were used on all measures. The SUDS variables were included in these analyses; however, the results need to be interpreted within the context of the significant therapist and group effects.

Measures of Assertiveness

Two-way analysis of variance resulted in significant main effects for treatment on both self-report measures of overall assertiveness, the Rathus Assertiveness Schedule ($F = 2.933$, $df = 3/105$, $p = .036$) and the Assertion Inventory - Response Probability ($F = 2.745$, $df = 3/103$, $p = .046$). No main effect for anxiety level or interaction between

treatment conditions and anxiety level was found. Subsequent comparisons among treatment conditions revealed the only significant difference to be that the Assertive Skill Training group improved significantly more than the Assessment-Control group ($p < .05$) on the RAS. The Assertive Skill Training group did not differ significantly from either Desensitization or Discussion groups, nor did the latter two groups differ significantly from each other or from the control group. There were no significant comparisons found on the AI-Response Probability.

Behavior Role-Play Test.

Using the mean of the ratings for all 11 responses to the Behavior Role-Play Test, a two-way analysis of variance indicated a highly significant main effect for treatment condition ($F = 36.473$; $df = 3/105$; $p < .001$), but no statistically significant effects for anxiety level or the interaction between anxiety level and treatment. Pairwise comparisons among treatment means revealed that the Assertive Skill Training group improved significantly more than all other treatment conditions, none of which differed significantly from each other ($p < .05$). The same results were true for comparisons among treatment means within both High- and Low-Anxiety levels ($p < .01$).

Two-way analyses of variance resulted in significant main effects of treatment for all BRT item groups: those situations used in treatment, TREATMENT items ($F = 43.172$, $df = 3/105$, $p < .001$); situations not used in treatment sessions, NOVEL items ($F = 8.711$; $df = 3/105$, $p < .001$); NOVEL TREATMENT items ($F = 3.312$, $df = 3/105$, $p = .023$); and NOVEL NOVEL items ($F = 8.737$, $df = 3/105$, $p < .001$). Effects for anxiety level were

nonsignificant, and only on the NOVEL items was there a tendency for treatment effects to interact with anxiety level ($F = 2.222$, $df = 3/105$, $p = .088$).

Comparisons among the four treatment means indicated that for TREATMENT, NOVEL, and NOVEL NOVEL items, women in Assertive Skill Training improved from pre to posttreatment significantly more than those in all other treatment conditions, none of which differed significantly from each other ($p < .01$). For NOVEL TREATMENT items the only significant comparison was between ASS and A-C, the ASS group improving significantly more than the control group ($p < .05$). Subsequent comparisons revealed that this difference might be attributed to the significant difference between ASS within the Low-Anxiety level and A-C within the High-Anxiety level ($< .05$).

Comparisons among treatment means within each anxiety level revealed that for TREATMENT items for both High- and Low-Anxiety levels, ASS improved more significantly more than all other treatments ($p < .01$). For NOVEL items, however, only the ASS condition for the Low-Anxiety level improved significantly more than all others ($p < .01$) and, within the ASS condition itself, Low-Anxiety scores showed significant improvement as compared to High-Anxiety scores ($p < .05$). For NOVEL NOVEL items, only the ASS condition improved significantly more than all other treatments within the Low-Anxiety level ($p < .01$); however, among High-Anxiety women no comparisons were significant.

Examination of the mean scores from pre to posttreatment also revealed that the DES group tended to improve scores on TREATMENT items but to a lesser degree than the ASS group, while for NOVEL items of both

types (NOVEL TREATMENT and NOVEL NOVEL) within the Low-Anxiety level, the scores actually deteriorated.

These results suggest that Assertive Skill Training produced significant changes on TREATMENT items, and the improvement generalized to NOVEL items not used in treatment. Further examination, however, attributes this generalization to the Low-Anxiety women. The improvement of Low-Anxiety women given Assertive Skill Training generalized to items not used in treatment, both for NOVEL TREATMENT and NOVEL NOVEL items, whereas the improvement of High-Anxiety women given the same treatment did not.

Measures of State Anxiety (Assertion-Related Anxiety)

A two-way analysis of variance on the Assertion Inventory-Discomfort scores indicated a significant treatment effect ($F = 4.176$, $df = 3/104$, $p = .008$), but none for anxiety level or the interaction between anxiety leveland treatment. Comparisons among treatment means indicated that both ASS and DES decreased anxiety significantly more than the A-C group and did not differ significantly from each other ($p < .05$). Further comparisons among treatment means within anxiety levels revealed that the ASS High-Anxiety group decreased in anxiety significantly more than either High- or Low-Anxiety groups in A-C.

Ratings of Subjective Units of Disturbance (SUDS) on BRT

Two-way analysis of variance of the means on the 11 ratings indicated significant effects only for treatment ($F = 3.789$, $df = 3/103$, $p = .013$). Comparisons among treatment means revealed a significant decrease in

mean ratings for the Assertive Skill Training condition as compared to Assessment-Control ($p < .01$). The only significant comparison among means within each anxiety level was between the ASS High-Anxiety and the A-C High-Anxiety groups.

Analyses using the BRT item groups revealed significant treatment effects for TREATMENT items ($F = 3.937$, $df = 1/103$, $p = .011$), NOVEL items ($F = 2.750$, $df = 3/103$, $p = .046$), and NOVEL TREATMENT items ($F = 3.028$, $df = 3/103$, $p = .032$). No significant effects for NOVEL NOVEL items was apparent. There were also significant main effects of anxiety level for TREATMENT items ($F = 3.996$, $df = 3/103$, $p = .046$); this was not true for NOVEL items.

Comparisons of treatment means indicated that for TREATMENT items all three treatment conditions, ASS, DES, and DISC, decreased anxiety significantly more than A-C ($p < .05$). To determine the relationship with anxiety level, comparisons of treatment means within both anxiety levels were made. The only significant comparison was between ASS and A-C within the High-Anxiety level. This means that Ss in ASS Low-Anxiety level did not decrease anxiety significantly more than A-C Low-Anxiety.

For the NOVEL items and NOVEL TREATMENT items, only the ASS condition decreased anxiety significantly more than the A-C condition ($p < .05$). Within anxiety levels for NOVEL TREATMENT items the ASS High-Anxiety condition differed significantly from A-C High-Anxiety, while no significant comparisons were found in the Low-Anxiety level.

Examination of the pre and posttreatment means revealed that both DES and DISC produced some decrease in anxiety for TREATMENT, NOVEL, and

NOVEL TREATMENT items; for NOVEL NOVEL items, the means in the DISC condition actually increased, particularly for Low-Anxiety women.

To summarize, on the SUDS variables, women in the Assertive Skill Training decreased in anxiety significantly more than those in the control group; women in the Desensitization and Discussion treatments also decreased in anxiety but not significantly more than the control group did, except when TREATMENT items were analyzed separately. The decrease in anxiety for ASS generalized to NOVEL items, but not to NOVEL NOVEL items, new items in new categories of situations. The significant effect of ASS in TREATMENT and NOVEL TREATMENT items was mostly attributed to the High-Anxiety-level group.

Interpretation of the results on the SUDS variables must be made cautiously because, as discussed previously, treatment effects are confounded with the therapist/group effects; some of the effect of ASS might be due to the therapist or the treatment group involved.

Therapist E and her group in the ASS condition produced significant differences from three other groups for NOVEL items and seven groups for TREATMENT items, two of these being also ASS groups ($p < .05$). It is possible that a proportion of the more highly significant results of the ASS treatment as compared to either DES or DISC conditions may be attributed to this therapist and/or the treatment group.

Measure of Response Satisfaction

Two-way analysis of variance performed on the mean satisfaction ratings across all BRT items revealed a significant effect of treatment

($F = 7.449$, $df = 3/103$, $p < .001$) and no significant effects for anxiety level or the interaction term. Pairwise comparisons among treatment mean change scores indicated that the Assertive Skill Training group ($p < .01$) and the Desensitization group ($p < .05$) became significantly more satisfied with their responses than did the A-C group. The ASS group also increased in satisfaction significantly more than the DES and DISC groups ($p < .05$). Further comparisons among means within anxiety levels indicated that the significant increase in satisfaction for the DES condition was contributed by the High-Anxiety group; DES with Low-Anxiety women produced no significant increase as compared to the control group. On the other hand, ASS within both anxiety levels increased satisfaction significantly more than the Assessment-Control. Examination of pre and posttreatment mean scores showed that all three treatment conditions increased in satisfaction, while the control group experienced a slight decrease.

Two-way analyses of variance on item groups indicated a significant effect due to treatment on TREATMENT items ($F = 9.923$, $df = 3/103$, $p < .001$) and on NOVEL TREATMENT items ($F = 3.424$, $df = 3/103$, $p = .020$); only a weak association between treatment and satisfaction change scores was indicated for the NOVEL item group ($F = 2.313$, $df = 3/103$, $p = .079$), and there were no significant effects for NOVEL NOVEL items.

Post-hoc comparisons on TREATMENT items indicated that both the Assertive Skill Training group and Desensitization group improved their satisfaction significantly more than the control group ($p < .01$); Assertive Skill Training also improved significantly more than the Discussion group ($p < .01$) and the Desensitization group ($p < .05$).

Comparing the means within anxiety levels indicated that at both anxiety levels ASS differed significantly from A-C ($p < .01$); however, DES differed significantly from A-C, and ASS from DISC, only within the High-Anxiety level ($p < .05$). Post-hoc comparisons among means on NOVEL items revealed no significant results; on NOVEL TREATMENT items, comparisons indicated that ASS and DISC groups increased in satisfaction significantly more than the A-C group. The latter significant differences were attributed to the High-Anxiety level where all three treatment groups, ASS, DES, and DISC, improved significantly more than the control group; they did not differ significantly from each other.

In general it can be said that Assertive Skill Training was most effective in increasing satisfaction; however, Desensitization for High-Anxiety women also produced improved ratings on situations used in treatment. Discussion had a significant effect for the total satisfaction score across BRT items and for NOVEL TREATMENT items, but was generally less effective than either ASS or DES. Generalization of treatment effects in increasing satisfaction occurred only to new situations within categories handled in treatment sessions. No generalization was apparent for new situations in new categories.

DISCUSSION

Assertive Skill Training was more effective in increasing assertive responses than either Desensitization, the placebo-control, or assessment-control conditions for both High- and Low-Anxiety women. In addition, within the Assertive Skill Training treatment itself, greater generalization

of treatment effects to untreated situations occurred for Low-Anxiety women than for High-Anxiety women. These results suggest that the level of general anxiety does influence the effect of assertion training: the lower the anxiety level, the greater the amount of improvement that can be expected to generalize across situations.

On anxiety measures, both Desensitization and Assertive Skill Training produced a significant reduction in anxiety. For actual anxiety felt while performing on the BRT, all three conditions, Desensitization, Assertive Skill Training, and Discussion, were effective in reducing anxiety on situations used in treatment as compared to the control group. Assertive Skill Training was also effective on new situations in categories used in treatment for High-Anxiety women; no treatment significantly decreased anxiety on NOVEL items in NOVEL categories. Since Desensitization had anxiety as its target of change, it was expected to be more effective in reducing assertion-related anxiety than any other condition. The results suggest that while Desensitization was effective in reducing anxiety for those situations actually desensitized, it was no more effective than other treatments; in addition, this effect did not generalize to untreated situations.

Both Desensitization and Assertive Skill Training resulted in increased satisfaction. However, for Desensitization this increase occurred only in situations within treatment categories for High-Anxiety women. Changes in satisfaction with one's response on role-played situations can best be interpreted in conjunction with actual changes in performance on the role-played situations. Anxiety and satisfaction did not necessarily improve with improved performance on new situations for

Assertive Skill Training; the Desensitization group improved on satisfaction and anxiety measures in spite of a lack of improved performance. This suggests that increased satisfaction in both treatment conditions is related to lowered anxiety, despite improvement or lack of it on assertive responses.

A difficulty in interpreting the differential effects of treatment on the anxiety ratings (SUDS) for the BRT situations is the significant therapist effects. As discussed previously, therapist effects in this study are confounded with the effect of each individual group of six women, and since therapists had only one group in each treatment condition, the interaction between therapist and treatment is totally confounded with a group effect.

The fact that a therapist effect and its interaction with treatment is significant only for the SUDS variable seems unusual. However, it is plausible that the SUDS ratings more than any other variable might be affected by the atmosphere of the group of which the therapist is also an integral part. Supportive, cohesive, and empathic groups would tend to decrease anxiety in assertive situations, since the anxiety of concern is a social and interpersonal one. There can be little doubt that the composition of each of the 15 groups of six women resulted in different group sociometric structures and degrees of cohesion. This became apparent to the investigator when auditorily monitoring the groups and debriefing each group after posttreatment testing. Members of some groups verbalized more frequently to each other and shared more personal information; some groups made arrangements to meet again socially. No

systematic data was kept on group attributes, but therapists also noted these characteristics in the remarks they wrote after each treatment session.

Women's reactions to the method of treatment gives an indication of what method is most desirable from the viewpoint of the recipients. Some information is available which suggests that Desensitization was the least desirable treatment method. First, of the six women who terminated treatment, three were from Desensitization, one from Discussion, and two from the Assessment-Control group. No women dropped out of the Assertive Skill Training condition. One would expect the highest rate of drops to be from the control group as they waited six weeks for treatment; in actuality, more women dropped out from Desensitization. Despite the low percentage of drops, this distribution appears less than random. Secondly, more complaints were received about the Desensitization treatment than any other method. Two therapists reported members' discontent with the Desensitization treatment method per se; one of these two groups also had the highest rate of absenteeism and was the therapist/group showing the least reduction in SUDS (Therapist D). The only complaint from groups other than Desensitization was from one woman in a Discussion group who requested role-playing experience; later the therapist reported that this person was enjoying the group.

A limitation of this study is the lack of followup data. Although the results suggest that Desensitization was not effective in increasing assertion, the theoretical assumption underlying its use is that by reducing the anxiety inhibiting assertive responses, such responses will increase. The implication is that increased assertion is a consequence of reduced anxiety, and thus a time lag might realistically be expected.

In Assertive Skill Training, where improved performance was not necessarily accompanied by reduced anxiety, the assumption is that giving assertive responses will reduce anxiety; therefore a further reduction in anxiety might well follow increased assertion in time. Goldsmith (1973) also noted a similar lag for psychiatric inpatients who had increased assertive responses through assertion training without an accompanying increase in comfort and positive self-evaluation. Anxiety and satisfaction may be related to the in vivo experience of positive, or at least neutral, consequences for the assertive behavior.

In this study the program content was somewhat controlled through audiotaped presentation of situations, thus enabling a more accurate analysis of the effect of treatment techniques by reducing inter-subject variance in terms of the nature of items presented. However, since the situations selected for inclusion were based on ratings for the entire population, it is likely that some situations were less relevant to individual women than others. Although the alternative of having women bring in their own situations to the treatment sessions might have increased the relevancy, it would also have increased error when analyzing variance due to treatment method. Program content would then have been a function of the individual women receiving a specific treatment.

A major implication of this study for clinicians and assertion-training groups for women is that assertion training, which includes the components delineated within, is more effective than desensitization in increasing assertive responses even with women experiencing high anxiety, and was as effective in reducing assertion-related anxiety as desensitization.

Each treatment method had a unique contribution, and combining procedures may strengthen results. The Discussion groups developed a closeness and support system not noticed as often in the other groups. This sharing of personal information, seen as valuable by some women, could easily be, and probably often is, incorporated in assertion training groups. Some women in the Desensitization group found that the practice of relaxation in high tension situations enabled them to perform better. If a clinician were confronted with women highly anxious with regard to assertiveness, a combination of desensitization and assertion training could be used. Assertive items could be first desensitized in a hierarchical manner to alleviate anxiety and then role-played to develop skill in appropriate handling. Various combinations of these techniques need to be experimented with and investigated, to further increase clinical effectiveness of a total treatment package.

REFERENCES

Bandura, A, Blanchard, E. B., and Ribber, B. Relative efficacy of desensitization and modeling approaches for inducing behavioral, affective, and attitudinal changes. Journal of Personality and Social Psychology, 1969, 13, 173-199.

Barlow, D. H., Agras, W. S., Leitenberg, H., and Wincze, J. P. An experimental analysis of the effectiveness of "shaping"in reducing maladaptive avoidance behavior: An analogue study. Behavior Research and Therapy, 1970, 8, 165-173.

Brockway, B. S. Assertive training for professional women. Social Work, 1976, 21, 498-505.

Curran, J. P. Social skills training and systematic desensitization in reducing dating anxiety. Behavior Research and Therapy, 1975, 13, 65-68.

Curran, J. B., and Gilgert, F. S. A test of the relative effectiveness of a systematic desensitization program and an interpersonal skills training program with date anxious subjects. Behavior Therapy, 1975, 6, 510-521.

DeLange, J. M. Relative effectiveness of assertive skill training and desensitization for high and low anxiety women. Doctoral dissertation, University of Wisconsin, 1976.

Eisler, R. M., Hersen, M., and Miller, P. M. Effects of modeling on components of assertive behavior. Journal of Behavior Therapy and Experimental Psychiatry, 1973, 4, 1-6.

Eysenck, J. J., and Beech, R. Counterconditioning and related methods. In A. E. Bergin and S. L. Garfield (Eds.), Handbook of psychotherapy and behavior change. New York: John Wiley and Sons, Inc., 1971, pp. 543-611.

Glassi, J. P., Galassi, M. D., and Litz, M. C. Assertive training in groups using video feedback. Journal of Counseling Psychology, 1974, 21, 390-394.

Gambrill, E. D., and Richey, C. A. An assertion inventory for use in assessment and research. Behavior Therapy, 1975, 6, 550-561.

Goldfried, M. R., and D'Zurilla, T. J. A behavioral-analytic model for assessing competence. In C. D. Spielberger (Ed.), Current topics in clinical and community psychology (Vol. 1). New York: Academic Press, 1969, pp. 151-196.

Goldsmith, J. B. Systematic development and evaluation of a behavioral program for training psychiatric inpatients in interpersonal skills. Doctoral dissertion, University of Wisconsin, 1973.

Goldsmith, J. B., and McFall, R. M. Development and evaluation of an interpersonal skill-training program for psychiatric inpatients. Journal of Abnormal Psychology, 1975, 84, 51-58.

Hamilton, M., and Schroeder, H. E. A comparison of systematic desensitization and reinforced practice procedures in fear reduction. Behavior Research and Therapy, 1973, 11, 649-652.

Marzillieier, J. S., Lambert, C., and Kellett, J. A controlled evaluation of systematic desensitization and social skill training for socially inadequate psychiatric patients. Behavior Research and Therapy, 1976, 4, 225-238.

McFall, R. M., and Lillesand, D. B. Behavior rehearsal with modeling and coaching in assertion training. Journal of Abnormal Psychology, 1971, 77, 313-323.

Nie, N. H., Hull, C. H., Jenkins, J. G., Steinbrenner, K., and Bent, D. H. Statistical package for the social sciences. New York: McGraw-Hill Book Company, 1975.

Overall, J. E., and Spiegel, D. K. Concerning least squares analysis of experimental data. Psychological Bulletin, 1969, 72, 311-322.

Paul, G. L. Insight versus desensitization in psychotherapy. Stanford: Stanford Press, 1966.

Paul, G. L. Outcome of systematic desensitization. In C. M. Franks (Ed.), Behavior therapy: Appraisal and status. New York: McGraw-Hill Book Company, 1969, pp. 63-159.

Rathus, S. A. An experimental investigation of assertive training in a group setting. Journal of Behavior Therapy and Experimental Psychiatry, 1972, 3, 81-86. (a)

Rathus, S. A. A 30-item schedule for assessing assertive behavior. Behavior Therapy, 1973, 4, 498-506. (b)

Rimm, D. C., Hill, G. A., Brown, N. N., and Stuart, J. E. Group-assertive training in treatment of expression of inappropriate anger. Psychological Reports, 1974, 34, 791-798.

Spielberger, C. D., Gorsuch, R. L., and Lushene, R. E. STAI manual for the state-trait inventory. Palo Alto: Consulting Psychologists Press, 1970.

Winer, B. J. Statistical principles in experimental design (2nd ed.). New York: McGraw-Hill Book Company, 1971.

Wright, J, C. G. The relative efficacy of systematic desensitization and behavior training in the modification of university quiz section participation difficulties. Doctoral dissertation, University of Wisconsin, 1972.